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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,038	12/28/2001	Dmitri E. Nikonov	42390P13380	1947

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EXAMINER

KIM, ELLEN E

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/041,038

Applicant(s)

NIKONOV ET AL.

Examiner

Ellen E Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "adding an additional layer ... after removing the first optical probe" is not clearly described in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-4, 7-12, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendett et al [USPAT 6,330,388] in view of Hunsperger et al [USPAT 4,773,063].**

Bendett et al disclose a waveguide device comprising a planar waveguide 202 [fig. 6] and the method of making it. Bendett et al teach at column 9, lines 23-36 that the laser 202 is tested by coupling light.

Bendett et al do not specifically show that the testing can be done by optical fiber couplings. Bendett et al however teach in fig. 5A that the laser 202 is coupled to light source by a first optical fiber and the output can be coupled to a second optical fiber. Therefore, it would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Bendett et al's device to include the optical fibers to test the laser device 202 for the purpose of higher coupling efficiency.

Bendett et al do not show a side-polished optical fiber.

Hunsperger et al disclose an optical device comprising a polished optical fiber coupled to a waveguide device for the purpose of higher coupling efficiency [see column 7, lines 10-13].

It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Bendett et al's device to include the polished optical fiber as shown in Hunsperger et al's reference for the purpose of higher coupling efficiency.

In re claim 3, Bendett et al and Hunsperger et al do not disclose an index-matching fluid as an interface between the first optical probe and the planar lightwave circuit. Official Notice is taken that utilizing an index-matching fluid between the optical

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fiber and the planar circuit for the purpose of higher coupling efficiency is old and well known in the art. See In Re Malcolm 1942 C.D. 589:543 O.G. 440 MPEP 706.02 (a).

Therefore, it would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify the device to include the index-matching fluid for the purpose of higher coupling efficiency.

In re claim 4, it is clear an air layer can be considered as an upper cladding layer.

In re claim 7, Bendett et al and Hunsperger et al do not specifically teach that the testing is done after the optical fiber is permanently attached to the device. It would have been obvious to the ordinary skilled person in the art at the time the invention was made to test the first few results after the device is assembled for the purpose of the optimum efficiency of the device.

Note that the method claims are inherently disclosed by the Bendett et al and Hunsperger et al's reference.

In re claims 10, 11 and 17, Examiner notes that when the optical probes are manually or mechanically coupled to the waveguide, some degree of freedom is always provided for the purpose of the best result of the combined device.

**Claims 5, 6, 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendett et al and Hunsperger et al as applied to claim 1 above, and further in view of Jewell et al [USPAT 6,542,672].**

Bendett et al and Hunsperger et al discloses every aspect of claimed invention except for the testing the optical pathway prior to dicing the PLC wafer.

Jewell et al teach at column 10, lines 22-31 that testing the sub-assemblies at the wafer level before the dicing the wafer would bring significant efficiency, and increase assembly process control of the device.

Therefore, It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify the device to include a method step of testing the optical pathway prior to dicing the PLC wafer for the purpose of significant efficiency, and increase assembly process control of the device.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Further references of interest are cited on Form PLO-892, which is attachment to this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen Kim whose telephone number is (703) 308-4946. The examiner can normally be reached on Monday and Thursday.

Ellen E. Kim



Primary Examiner

September 1, 2003/EK